

Cyclobenzaprine for acute back pain

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Clinical question

How effective is cyclobenzaprine for acute back pain?

Bottom line

Cyclobenzaprine reduces pain and leads to global improvement compared with placebo for 1 in every 3 to 9 patients in the first week. Cyclobenzaprine generally adds little to naproxen. Taken 3 times daily, 5 mg is as effective as 10 mg, with less somnolence.

Evidence

- In 3 systematic reviews (9 to 46 RCTs, 820 to 5401 patients) of non-benzodiazepine muscle relaxants versus placebo, differences were statistically significant¹⁻³:
 - Pain scores were about 12 points lower on a 100-point visual analogue scale at 10 days.¹
 - There was undefined pain reduction (number needed to treat [NNT] of 4 to 7) at 2 to 7 days; an undefined target for global efficacy (NNT=4) was achieved at 2 to 4 days.²
- Cyclobenzaprine versus placebo:
 - One systematic review (14 RCTs, 3023 patients) showed global improvement (NNT=3) at about 10 days.⁴
 - We pooled data from 2 publications with 2 RCTs each.
 - Pain relief (1389 patients) was achieved at 7 days in 50% of those taking 5 mg of cyclobenzaprine 3 times daily versus 38% taking placebo (NNT=9; $P<.001$).⁵ No difference was noted in 5 mg versus 10 mg or 2.5 mg versus placebo.
 - No difference was noted between 30 mg extended release once daily and 10 mg immediate release 3 times daily (504 patients).⁶
- An RCT of cyclobenzaprine plus ibuprofen (867 patients) showed no benefit to adding ibuprofen.⁷
- An RCT of naproxen plus cyclobenzaprine (323 patients) showed no benefit to adding cyclobenzaprine at day 7, but only about 30% had frequent or continual back pain then.⁸

Context

- Most trials were industry sponsored; had small samples, short durations, and poorly defined targets; and were unclear about whether cutoffs were clinically meaningful.⁴
- No differences in efficacy were seen among the muscle relaxants, although cyclobenzaprine was more consistently evaluated.³ Cyclobenzaprine is equal or superior to diazepam.³ Other direct comparisons are lacking.
- Adverse events include dose-related somnolence and dry mouth. Somnolence occurred in 10% of those taking placebo, 29% taking 5 mg 3 times daily, and 38% taking 10 mg 3 times daily.⁵

-Taken 3 times daily, 10 mg caused more somnolence than 5 mg (number needed to harm of 12).

-Rates of discontinuation owing to somnolence were 0.8% for placebo, 2.5% for 5 mg 3 times daily, and 5.2% for 10 mg 3 times daily.⁵

- Guidelines recommend cyclobenzaprine for the treatment of acute low back pain.⁹

Implementation

About 50% to 90% of people will have back pain; about 90% of those cases will be nonspecific.⁹ X-ray scans are discouraged for acute nonspecific back pain.¹⁰ For acute back pain, acetaminophen is no better than placebo¹¹; NSAIDs provide global improvement for 1 in every 11 patients compared with placebo.¹² Cyclobenzaprine is structurally similar to tricyclic antidepressants and has similar adverse events. It should be avoided in the elderly¹³ and be given as 5 mg. While muscle relaxants have abuse potential,¹⁴ we did not find studies describing abuse of cyclobenzaprine.

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The opinions expressed in Tools for Practice articles are those of the authors and do not necessarily mirror the perspective and policy of the Alberta College of Family Physicians.

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